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STATE OF COLORADO

Bill Owens, Governor
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Dedicated to protecting and improving the health and environment of the people of Colorado

HAZARDOUS MATERIALS AND WASTE MANAGEMENT DIVISION

<http://www.cdphe.state.co.us/hm/>

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-3300
Fax (303) 759-5355

222 S. 6th Street, Room 232
Grand Junction, Colorado 81501-2768
Phone (970) 248-7164
Fax (970) 248-7198



Colorado Department
of Public Health
and Environment

July 21, 1999

Ms. Bonnie Lavelle
Remedial Project Manager
EPA Region 8
999 18th Street, Suite 500
Denver, CO 80202-2466

Re: Project Plan for the Vasquez Boulevard & I-70 Site Denver, CO, Phase III Field Investigation (June 30, 1999).

Dear Ms. Lavelle:

The Hazardous Materials and Waste Management Division ("the Division") of the Colorado Department of Public Health and Environment (CDPHE) received the above-referenced document on July 8, 1999 and has completed its review. Our comments are attached.

CDPHE appreciated having the opportunity to discuss the plan with EPA and its contractors in technical working sessions. The state believes that such discussion and subsequent input should occur earlier in the process and before a draft document is distributed to the public for review and comment. It has been our experience that early involvement by the state better serves the interest of the project.

The Division acknowledges that this plan is comprehensive and well-conceived especially considering the scope of this sampling effort and the time frame in which to conduct the sampling. Our comments are intended to improve the plan and to document some of the issues discussed in the technical sessions about which we still have questions or concerns.

Please do not hesitate to contact me at (303) 692-3395 if you have any questions or concerns about our comments.

Sincerely,

Barbara O'Grady
State Remedial Project Manager

Ms. Bonnie Lavelle

7/21/99

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Enclosure

cc: Mr. Robert Litle, Asarco
Ms. Linda Larson, Asarco
Dr. David Mellard, ATSDR
Ms. Susan Musa, ATSDR
Ms. Celia VanDerLoop, Denver
Joan Hooker
Anthony Thomas
Sandy Douglas
Melissa Munoz
Michael Maes
Dr. Chuck Patterson
Lorraine Granado
Frances Hartogh, AGO
Ms. Jane Mitchell, DCEED
Fonda Apostolopolous, HMWMD
Mark Rudolph, HMWMD
File

State of Colorado Comments on The Project Plan for the Vasquez Boulevard & I-70 Site, Denver, CO Phase III Field Investigation (June 30, 1999)

General Comments

1. The plan needs to address lead/arsenic interference and what contingencies will be used to document arsenic concentrations where lead is present above 200 mg/kg, thus assuring that detection limits at this site will be no higher than 20 mg/kg for lead and arsenic.
2. The use of a GIS database is alluded to in the document; however, there is no mention as to how GIS locations will be collected, if they will be collected, or if there is some form of geographical display/spatial distribution of contaminant concentration that will be presented in the analytical report.
3. Sample ID nomenclature is/appears to be confusing in the long term scope of the project. This nomenclature may be appropriate to the project database manager; however, it is counter productive to other agencies and concerned parties involved.
4. It may be useful to interview long time residents about their lawn care practices, and past landscaping practices (bringing in dirt from outside sources). This would be especially important for those yards where high concentrations of metals are found adjacent to yards where low concentrations are exhibited (documentation and explanation of the border effect).

Specific Comments

1. **Section 1.2 - Project Background**
On page 1-4, second bullet from the top, please revise the sentence to read "Contamination is generally highest at the surface, ".
2. **Section 1.3 - Study Objectives**
 - a. Phase III field sampling activities target the four data gaps described in this section. As discussed above in comment 14c below, a fifth data gap may exist regarding the co-location of antimony and arsenic.
 - b. Study objective #2 addresses collection of paired soil and dust data using collection of random composite samples for soil and dust to quantify the relationship between outdoor yard soil and indoor dust levels. The sampling design described in subsequent sections of the sampling plan should achieve the objective for arsenic, however, it should be noted that for lead, it will not be possible to assess source contribution (i.e., lead paint versus

lead in soil). It will most likely be necessary to collect additional samples to provide clear public health guidance to families in homes with elevated lead levels on how best to reduce their exposure to lead.

3. **Section 2.1.2 -Study Design for Residential Soil Sampling**

a. As discussed at the July 15 VBI70 Working Group Meeting technical breakout session, the state continues to have concerns about the ability of the proposed sampling plan to detect hot spots that are potentially of concern for acute and subchronic health impacts. It is not clear in the written text how the variability of the intensively sampled impacted properties is being considered and incorporated into the sampling design. The state strongly supports incorporation of other data comparisons and statistical tests of individual composite samples within each yard (such as review of the variability between composite samples within a yard and establishing maximum toxicity comparison values for individual composite samples) discussed at the July 15 afternoon technical meeting to provide added certainty that hot spots are not overlooked or diluted by the composite sampling scheme being proposed.

b. The project plan calls for use of bulk residential soil samples rather than sieved samples, with collection of both bulk and sieved soil samples from a subset of 60-90 residences to investigate whether arsenic and lead concentrations from these fractions are similar (described on page 3-8). The plan should discuss the protocol for what data will be used to characterize residential soils if these fractions are found to not be highly correlated. The state believes it is useful to do further comparison of the relationship of bulk versus fine (sieved) soil fractions, however the state supports use of sieved samples for characterizing residential soils. In addition, as written, sieved alley samples will be compared with bulk yard soil samples which seems to introduce additional uncertainty in the correlation of these media.

c. Based on the study objectives described in the text and the sampling design shown in Figure 3-3, it is not clear how fence line issues will be investigated with the current sampling plan.

4. **Section 2.0 - Data Quality Objectives and Study Design**

On page 2-1, third paragraph, first sentence, the state suggests the following revision: "...that data collected will provide sufficient information to **support** the key decisions which must be made."

5. **Section 2.3 - Alley Soil Pilot Study**

On page 2-15, Acceptable limits on decision errors, it is not clear, as written, how the goal of selecting a 95% UCL within 40% of the sample mean will be accomplished.

6. **Section 2.4 - Characterization of Schools and Parks**

Table 2-1 on page 2-19 lists the sampling status for several schools and parks as complete. Because of differences in the sampling designs from earlier field investigations, the section on "Decisions to Be Made" on page 2-16 should include an evaluation of the adequacy of earlier sampling efforts to fully assess these locations, such as the ability of those sampling efforts to determine an accurate exposure point concentration and to detect hot spots which may be of health consequence for those locations.

7. **Section 3.4.2 - Identification and Collection of Yard Soil Samples**

In the paragraph labeled Field Diagram, third sentence. Please revise the sentence to read: "The goal is not to have a drawing to scale,".

8. **Section 3.7 - Schools and Parks**

A minimum frequency of either a grab or composite sample should be included into the final Sampling Plan.

Additionally, the school and park study should include the following:

- 1) Private schools and daycare facilities
- 2) Community Gardens
- 3) Any vacant property potentially utilized unofficially as a playground or park
- 4) Any unfenced commercial properties adjacent to residential areas

9. **Figure 3.3 and Appendix E - Figure 2**

The grid south of the residence has three red sampling points and one yellow sampling point. Please change to two red and two yellow.

10. **Section 4.5 Special Training Requirements and Certification**

The section states that at least one member of each sampling team as well as all supervisory personnel retained for field sampling activities must be OSHA HAZWOPPER certified. All sampling personnel at a minimum should have received the hazardous waste site worker 24 hour OSHA training. Additionally, site or field supervisors should have the OSHA 8-hour site supervisor training.

11. **Section 4.6.2 - Laboratory Data**

This section states that CLP like data packages will be required for all laboratory data. Please distinguish between laboratory analytical methods (ICP-MS) and field or fixed-based XRF by using separate sections.

12. **Section 4.8.1 - Field Quality Control Samples**

This section states that field duplicates will be collected at a frequency of 5% of all surface soil samples. Table 4-2 indicates that the sample matrix for field duplicates is limited to Alley Soils. This should be expanded to include residential soils, schools, and parks in order to acquire definitive data.

13. **Section 4.12.1.1 - Audits**

Please change the sentence in the second paragraph to read: "Field audits will evaluate field procedures . . ."

14. **Appendix A, Section 3.0**

a. Step 1 - COPC selection method - RBCs (screening levels) from EPA Region III were used to select COPCs for the site. However, these values assess exposure to direct ingestion of soil only. The RBCs derived do not include exposure from inhalation or dermal exposure pathways. The inhalation pathway is included in the CSM for the site as a pathway which should be assessed quantitatively and may potentially be important for chemicals such as manganese and chromium which are carcinogenic or potentially more toxic via inhalation than ingestion. EPA Region IX RBCs or some methodology which includes this additional indirect exposure pathway in the development of the screening values should be used rather than EPA Region III values.

b. Step 2 - Beneficial mineral screen - Several "beneficial" minerals have been excluded on the basis that there is no reason to believe elevated concentrations of these chemicals are a result of site-specific releases. Because source attribution is not yet clear for this site, screening concentrations based on a RfD or RDA should be used for these chemicals rather than dismissing them out-of-hand.

c. Step 3 - Elimination of chemicals whose contribution is minor - The rationale given for the exclusion of antimony (low contribution to total risk relative to arsenic) is reasonable if co-location with arsenic can be demonstrated for the datasets available. If adequate data is not available to establish whether these chemicals are co-located, collection of data necessary for this analysis should be added as study objective #5.

d. Attachment 1 to Appendix A - Special Study on Thallium - The decision rule described on page 1 of ISSIs memo to EPA states that if concentrations are **largely** or entirely below the RBC, thallium may be dropped as a COPC. To be consistent with the screening methodology described in Step 1 of section 3.0 of Appendix A, the maximum concentration of thallium detected should be compared to the screening value.

15. Attachment 1 - Screening level evaluation of risks from acute and subchronic exposure to arsenic in soil

In accordance with discussions at the technical breakout sessions on July 15, parameter values for the acute exposure scenario should be revised to reflect that (a) the ATSDR MRL for acute toxicity is no longer valid, and (b) incorporate a body weight more typical of a younger child (10 kg), believed to be most susceptible to ingesting the high amount of soil used for the soil intake rate.